

METHOD AND APPARATUS FOR RECEPTION OF  
TERRESTRIAL DIGITAL TELEVISION SIGNALS

ABSTRACT OF THE DISCLOSURE

A digital television signal is intercepted by a plurality of antennas to produce a corresponding plurality of input signals. The antennas have different directionality so they can be combined in a way that reduces multipath echoes. In one embodiment, the antennas are arranged to operate in a diversity or scanned array mode. In another embodiment, the antennas are arranged to operate in an adaptive phased array mode. The input signals intercepted by the antenna are subjected to vestigial sideband (VSB) processing to produce a single VSB processed signal, which is decoded to form a display drive signal. A plurality of input signals in a VSB receiver having a plurality of antennas with different directionality are evaluated to determine how the input signals should be combined to reduce multipath echoes. The quality of the input signals from the antennas is evaluated at one of a number of different points in the VSB receiver, such as at the outputs of the antennas, the outputs of the VSB processors, or the output of the forward error correction (FEC) decoder. Within the VSB processors themselves, the quality of the input signals can be evaluated at a number of different points, including the outputs at the front end, the outputs at the back end, or inside the back end the outputs at the feed forward equalizer.

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